

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/Ala Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-007715**Date Inspected:** 14-Jun-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China

<b>CWI Name:</b>	Jin Dong Liang , Li Lin, Guo Peng			<b>CWI Present:</b>	<b>Yes</b>	<b>No</b>	
<b>Inspected CWI report:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Rod Oven in Use:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Electrode to specification:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Weld Procedures Followed:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Qualified Welders:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Verified Joint Fit-up:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Approved Drawings:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Approved WPS:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
				<b>Delayed / Cancelled:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Bridge No:</b>	34-0006			<b>Component:</b>	Tower and OBG Components		

**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance (QA) Inspector George Goulet was present during the times noted above for observations relative to the work being performed.

**Trial Assembly Area**

This QA Inspector, George Goulet, randomly observed the following in the trial assembly area:

Segments 3AE/3BE, both north and south sides, panel points 19~23, outer bolts sets on lower chevron connections:

ZPMC workers performed final bolt tightening verification, per ZPMC Bolting Inspection Notification Sheet #00028, using ZPMC calibrated wrench XO2-584, set at 460N.M, per ZPMC's Bolt Test Log for SFOBB listing the RoCap Set numbers and the N.M test result for tightening purposes. ZPMC QA Lei Tao informed this QA Inspector, George Goulet, that the bolt sets installed at this location came from RC Set No. DHGM220004, item number 13 on the list. Only 34 of the 36 outer bolt sets of the lower chevron lap plate connections were tested. On each plate was installed 34 - M22-2.5 x 70 ASTM A325 bolt sets. Two of the bolt sets on each side of the lap, chosen randomly by this QA Inspector, George Goulet, were tested and appeared to have been tightened to the wrench setting.

**Bay 10**

This QA Inspector, George Goulet, randomly observed the following work in progress in Bay 10:

SAW welding of weld joints SSD1-FESA4-1A/F-10B, 11B located on PCMK south tower, lift 4, skin E. Welder

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was identified as 201750. ZPMC QC was identified as CWI Jing Dong Liang (QC1). Assisting QC1 at this location and appearing to be monitoring the welding and recording data was ZPMC QC Inspector Jiang Xiao Bo, who was not a CWI. The welding variables recorded by QC1 and QC1's assistant appeared to comply with WPS-B-T-2221-B-U3c-S-2.

SAW welding of weld joints NSD1-FCSA4-1A/C-63B, 85, 68B located on PCMK north tower, lift 4, skin C. Welder was identified as 209051. ZPMC QC was identified as QC1. Assisting QC1 at this location and appearing to be monitoring the welding and recording data was ZPMC QC Inspector Lu Wei Chao, who was not a CWI. The welding variables recorded by QC1 and QC1's assistant appeared to comply with WPS-B-T-2221-B-U3c-S-2 for the CJP welds and WPS-B-T-2321-B-P3-S-2 for the PJP weld. Also at this location and appearing to be monitoring the welding operation was ABF Representative Jiang Zi Weng.

SAW welding of weld joints NSD1-FCSA4-1A/C-81, 87B, 77, 56B(2) located on PCMK north tower, lift 4, skin C. Welder was identified as 220081. ZPMC QC was identified as QC1. Assisting QC1 at this location and appearing to be monitoring the welding and recording data was ZPMC QC Inspector Lu Wei Chao, who was not a CWI. The welding variables recorded by QC1 and QC1's assistant appeared to comply with WPS-B-T-2221-B-U3c-S-2 for the CJP welds and WPS-B-T-2321-B-P3-S-2 for the PJP welds. Also at this location and appearing to be monitoring the welding operation was ABF Representative Jiang Zi Weng.

SAW welding of weld joints NSD1-FESA4-3A/F-22, 23B, 17 located on PCMK north tower, lift 4, skin E. Welder was identified as 040460. ZPMC QC was identified as QC1. Assisting QC1 at this location and appearing to be monitoring the welding and recording data was ZPMC QC Inspector Lu Wei Chao, who was not a CWI. The welding variables recorded by QC1 and QC1's assistant appeared to comply with WPS-B-T-2221-B-U3c-S-2 for the CJP weld and WPS-B-T-2321-B-P3-S-2 for the PJP welds. Also at this location and appearing to be monitoring the welding operation was ABF Representative Jiang Zi Weng.

SAW welding of weld joints NSD1-FESA4-3A/F-183, 14B, 13, 9B(2) located on PCMK north tower, lift 4, skin E. Welder was identified as 052917. ZPMC QC was identified as QC1. Assisting QC1 at this location and appearing to be monitoring the welding and recording data was ZPMC QC Inspector Lu Wei Chao, who was not a CWI. The welding variables recorded by QC1 and QC1's assistant appeared to comply with WPS-B-T-2221-B-U3c-S-2 for the CJP welds and WPS-B-T-2321-B-P3-S-2 for the PJP welds. Also at this location and appearing to be monitoring the welding operation was ABF Representative Jiang Zi Weng.

### Bay 11

This QA Inspector, George Goulet, randomly observed the following work in progress in Bay 11:

SAW welding of weld joints ESD1-FDSA4-2D/D-4B, 32B located on PCMK east tower, lift 4, skin D. Welder was identified as 041716. ZPMC QC was identified as CWI Li Lin (QC2). The welding variables recorded by QC2 appeared to comply with WPS-B-T-2221-B-U3c-S-2.

SAW welding of weld joints ESD1-FBSA4-2A/C-17A located on PCMK east tower, lift 4, skin B. Welder was identified as 042195. ZPMC QC was identified as QC2. The welding variables recorded by QC2 appeared to comply with WPS-B-T-2221-B-U3c-S-2. Also at this location and appearing to be monitoring the welding operation was ABF Representative Zhao Xian He.

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SMAW welding of weld joint WSD1-FDSA4-4A/D-3A located on PCMK west tower, lift 4, skin D. Welder was identified as 255865. ZPMC QC was identified as QC2. The welding variables recorded by QC2 appeared to comply with WPS-B-P-3212-B-U3b.

Also at this location and appearing to be monitoring the welding operation was ABF Representative Luo Lai Quan. FCAW welding of weld joint WSD1-A25A/E-102 located on PCMK west tower, shear plate. Welder was identified as 066484. ZPMC QC was identified as CWI Guo Peng (QC3). Assisting QC3 at this location and appearing to be monitoring the welding and recording data was ZPMC QC Inspector Liu Dao Feng, who was not a CWI. The welding variables recorded by QC3 and QC3's assistant appeared to comply with WPS-B-T-2331-Tc-P4-F.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

### Summary of Conversations:

As noted above, and this QA Inspector, George Goulet, asked each welding QC if all the welding variables observed by QC appeared to comply with the appropriate WPS, including the preheat requirements according to thickness of the thickest member being welded. Each welding QC showed this QA Inspector, George Goulet, that each welding QC was carrying the proper temperature sticks to monitor the minimum and maximum preheat and interpass temperatures and replied that all each welding QC observed did appear to comply.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Serge Sinevod, 134-8257-0045, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Goulet, George	Quality Assurance Inspector
<b>Reviewed By:</b>	Carreon, Albert	QA Reviewer

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